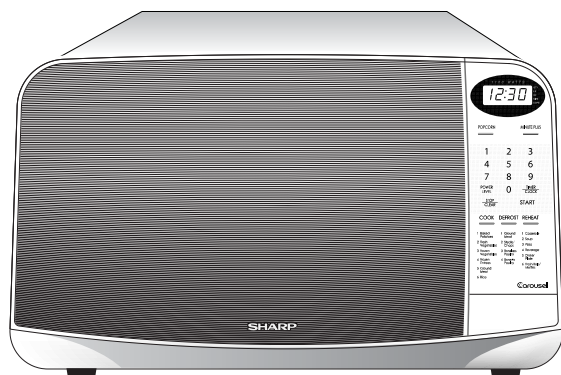


# SHARP SERVICE MANUAL

S4307R308HPW/

## MICROWAVE OVEN



## MODELS R-308HK R-308HW

In the interest of user-safety the oven should be restored to its original condition and only parts identical to those specified should be used.

**WARNING TO SERVICE PERSONNEL:** Microwave ovens contain circuitry capable of producing very high voltage and current, contact with following parts may result in a severe, possibly fatal, electrical shock. (High Voltage Capacitor, High Voltage Power Transformer, Magnetron, High Voltage Rectifier Assembly, High Voltage Harness etc..)

This is a supplemental Service Manual for Models R-308HK and R-308HW. These models are quite similar to base models R-305HK/R-305HW. Use this supplemental manual together with the Base Model Service Manual (Refer No. is S2304R305HPW/) for complete operation, service information, etc..

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## SHARP CORPORATION

This document has been published to be used for after sales service only.

The contents are subject to change without notice.

## **PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY**

- (a) Do not operate or allow the oven to be operated with the door open.
- (b) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary: (1) interlock operation, (2) proper door closing, (3) seal and sealing surfaces (arcing, wear, and other damage), (4) damage to or loosening of hinges and latches, (5) evidence of dropping or abuse.
- (c) Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity, and connections.
- (d) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.
- (e) A microwave leakage check to verify compliance with the Federal Performance Standard should be performed on each oven prior to release to the owner.

## **BEFORE SERVICING**

Before servicing an operative unit, perform a microwave emission check as per the Microwave Measurement Procedure outlined in this service manual.

If microwave emissions level is in excess of the specified limit, contact SHARP ELECTRONICS CORPORATION immediately @1-800-237-4277.

If the unit operates with the door open, service person should 1) tell the user not to operate the oven and 2) contact SHARP ELECTRONICS CORPORATION and Food and Drug Administration's Center for Devices and Radiological Health immediately.

Service personnel should inform SHARP ELECTRONICS CORPORATION of any certified unit found with emissions in excess of  $4\text{mW}/\text{cm}^2$ . The owner of the unit should be instructed not to use the unit until the oven has been brought into compliance.

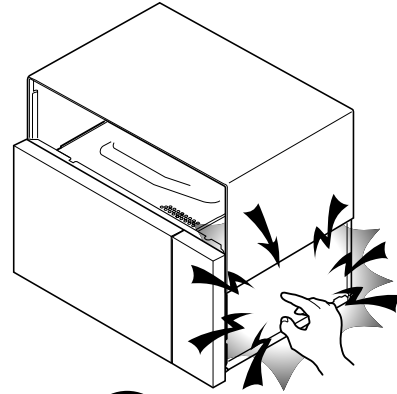
# WARNING TO SERVICE PERSONNEL

Microwave ovens contain circuitry capable of producing very high voltage and current, contact with following parts may result in a severe, possibly fatal, electrical shock.

(Example)


High Voltage Capacitor, High Voltage Power Transformer, Magnetron, High Voltage Rectifier Assembly, High Voltage Harness etc..

Read the Service Manual carefully and follow all instructions.



**Don't Touch !  
Danger High Voltage**

## Before Servicing

1. Disconnect the power supply cord , and then remove outer case.
2. Open the door and block it open.
3. Discharge high voltage capacitor.

### **WARNING: RISK OF ELECTRIC SHOCK. DISCHARGE THE HIGH-VOLTAGE CAPACITOR BEFORE SERVICING.**

The high-voltage capacitor remains charged about 60 seconds after the oven has been switched off. Wait for 60 seconds and then short-circuit the connection of the high-voltage capacitor (that is the connecting lead of the high-voltage rectifier) against the chassis with the use of an insulated screwdriver.

Whenever troubleshooting is performed the power supply must be disconnected. It may, in some cases, be necessary to connect the power supply after the outer case has been removed, in this event,

1. Disconnect the power supply cord, and then remove outer case.
2. Open the door and block it open.
3. Discharge high voltage capacitor.
4. Disconnect the leads to the primary of the power transformer.
5. Ensure that the leads remain isolated from other components and oven chassis by using insulation tape.
6. After that procedure, reconnect the power supply cord.

## When the testing is completed,

1. Disconnect the power supply cord, and then remove outer case.
2. Open the door and block it open.
3. Discharge high voltage capacitor.
4. Reconnect the leads to the primary of the power transformer.
5. Reinstall the outer case (cabinet).
6. Reconnect the power supply cord after the outer case is installed.
7. Run the oven and check all functions.

## After repairing

1. Reconnect all leads removed from components during testing.
2. Reinstall the outer case (cabinet).
3. Reconnect the power supply cord after the outer case is installed.
4. Run the oven and check all functions.

Microwave ovens should not be run empty. To test for the presence of microwave energy within a cavity, place a cup of cold water on the oven turntable, close the door and set the power to HIGH and set the microwave timer for two (2) minutes. When the two minutes has elapsed (timer at zero) carefully check that the water is now hot. If the water remains cold carry out **Before Servicing** procedure and re-examine the connections to the component being tested.

When all service work is completed and the oven is fully assembled, the microwave power output should be checked and a microwave leakage test should be carried out.

## MICROWAVE MEASUREMENT PROCEDURE

### A. Requirements:

- 1) Microwave leakage limit (Power density limit): The power density of microwave radiation emitted by a microwave oven should not exceed  $1\text{mW}/\text{cm}^2$  at any point 5cm or more from the external surface of the oven, measured prior to acquisition by a purchaser, and thereafter (through the useful life of the oven),  $5\text{mW}/\text{cm}^2$  at any point 5cm or more from the external surface of the oven.
- 2) Safety interlock switches:  
Primary interlock relay and door sensing switch shall prevent microwave radiation emission in excess of the requirement as above mentioned, secondary interlock switch shall prevent microwave radiation emission in excess of  $5\text{mW}/\text{cm}^2$  at any point 5cm or more from the external surface of the oven.

### B. Preparation for testing:

**Before beginning the actual measurement of leakage, proceed as follows:**

- 1) Make sure that the actual instrument is operating normally as specified in its instruction booklet.

Important:

Survey instruments that comply with the requirement for instrumentation as prescribed by the performance standard for microwave ovens, 21 CFR 1030.10(c)(3)(i), must be used for testing.

- 2) Place the oven tray in the oven cavity.
- 3) Place the load of  $275\pm 15\text{ ml}$  (9.8 oz) of tap water initially at  $20\pm 5^\circ\text{C}$  ( $68^\circ\text{F}$ ) in the center of the oven cavity.  
The water container shall be a low form of 600 ml (20 oz) beaker with an inside diameter of approx. 8.5 cm (3-1/2 in.) and made of an electrically nonconductive material such as glass or plastic.  
The placing of this standard load in the oven is important not only to protect the oven, but also to insure that any leakage is measured accurately.
- 4) Set the cooking control on Full Power Cooking Mode.
- 5) Close the door and select a cook cycle of several minutes. If the water begins to boil before the survey is completed, replace it with 275 ml of cool water.

### C. Leakage test:

Closed-door leakage test (microwave measurement)

- 1) Grasp the probe of the survey instrument and hold it perpendicular to the gap between the door and the body of the oven.
- 2) Move the probe slowly, not faster than 1 in./sec. (2.5 cm/sec.) along the gap, watching for the maximum indication on the meter.
- 3) Check for leakage at the door screen, sheet metal seams and other accessible positions where the continuity of the metal has been breached (eg., around the switches, indicator, and vents).  
While testing for leakage around the door pull the door away from the front of the oven as far as is permitted by the closed latch assembly.
- 4) Measure carefully at the point of highest leakage and make sure that the highest leakage is no greater than  $4\text{mW}/\text{cm}^2$ , and that the secondary interlock switch and the primary interlock relay do turn the oven OFF before any door movement.

NOTE: After servicing, record data on service invoice and microwave leakage report.

# SERVICE MANUAL

## SHARP

### MICROWAVE OVEN

### R-308HK/ R-308HW

#### FOREWORD

This Manual has been prepared to provide Sharp Electronics Corp. Service Personnel with Operation and Service Information for the SHARP MICROWAVE OVENS, R-308HK and R-308HW.

The models R-308HK and R-308HW are quite similar to base models R-305HK/R-305HW (Refer No. is S2304R305HPW/).

It is recommended that service personnel carefully study the entire text of this manual and the base model's manual so that they will be qualified to render satisfactory customer service.

Check the interlock switches and the door seal carefully. Special attention should be given to avoid electrical shock and microwave radiation hazard.

#### WARNING

Never operate the oven until the following points are ensured.

- (A) The door is tightly closed.
- (B) The door brackets and hinges are not defective.
- (C) The door packing is not damaged.
- (D) The door is not deformed or warped.
- (E) There is no other visible damage with the oven.

Servicing and repair work must be carried out only by trained service personnel.

#### DANGER

**Certain initial parts are intentionally not grounded and present a risk of electrical shock only during servicing. Service personnel - Do not contact the following parts while the appliance is energized; High Voltage Capacitor, Power Transformer, Magnetron, High Voltage Rectifier Assembly, High Voltage Harness; If provided, Vent Hood, Fan assembly, Cooling Fan Motor.**

All the parts marked “\*” on parts list are used at voltages more than 250V.

Removal of the outer wrap gives access to voltage above 250V.

All the parts marked “Δ” on parts list may cause undue microwave exposure, by themselves, or when they are damaged, loosened or removed.

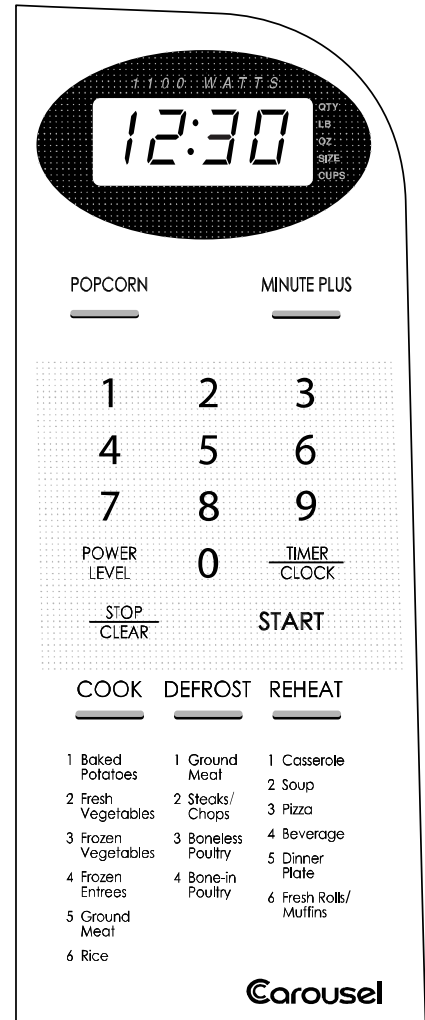
SHARP ELECTRONICS CORPORATION

SHARP PLAZA, MAHWAH,  
NEW JERSEY 07430-2135

## SPECIFICATION

ITEM	DESCRIPTION
Power Requirements	120 Volts / 13.5 Amperes 60 Hertz Single phase, 3 wire grounded
Power Output	1100 watts (IEC TEST PROCEDURE) Operating frequency of 2450MHz
Case Dimensions	Width 20-1/2" Height 12-1/4" Depth 17-3/4"
Cooking Cavity Dimensions	Width 14-1/2" Height 8-1/8" Depth 15-1/4"
1.0 Cubic Feet	
Control Complement	<p>Touch Control System Clock ( 1:00 - 12:59 ) Timer (0 - 99 min. 99 seconds) Microwave Power for Variable Cooking Repetition Rate;</p> <p>P-HI ..... Full power throughout the cooking time P-90 ..... approx. 90% of Full Power P-80 ..... approx. 80% of Full Power P-70 ..... approx. 70% of Full Power P-60 ..... approx. 60% of Full Power P-50 ..... approx. 50% of Full Power P-40 ..... approx. 40% of Full Power P-30 ..... approx. 30% of Full Power P-20 ..... approx. 20% of Full Power P-10 ..... approx. 10% of Full Power P-0 ..... No power throughout the cooking time</p> <p>POPCORN pad, MINUTE PLUS pad REHEAT pad, COOK pad DEFROST pad, Number selection pads POWER LEVEL pad, TIMER/CLOCK pad STOP/CLEAR pad, START pad</p>
Oven Cavity Light	Yes
Safety Standard	<p>UL Listed                      FCC Authorized</p> <p>DHHS Rules, CFR, Title 21, Chapter 1, Subchapter J</p>

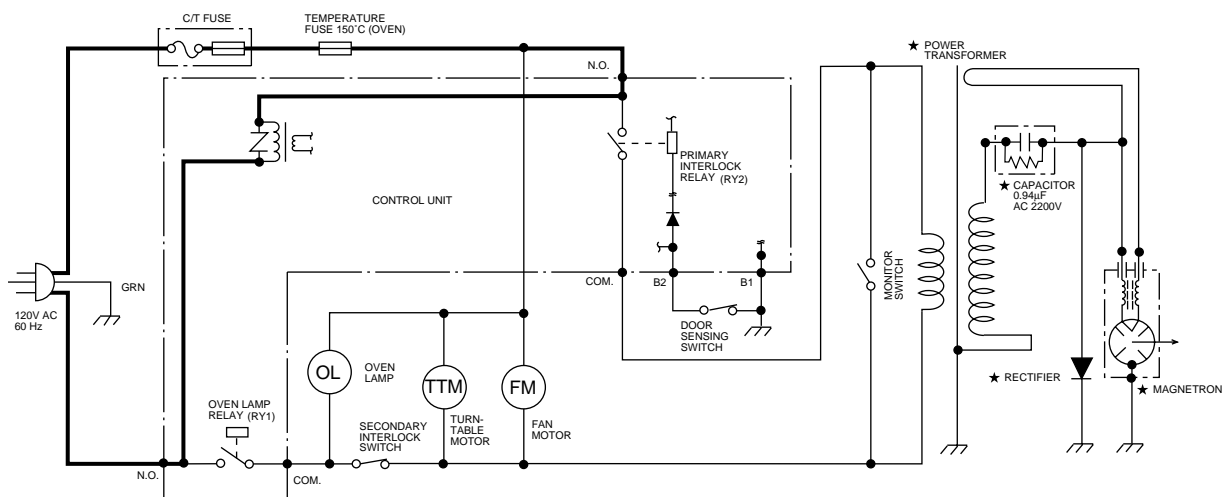
## TOUCH CONTROL PANEL

**NOTE:**

Some one-touch cooking features such as "MINUTE PLUS" are disabled after three minutes when the oven is not in use. These features are automatically enabled when the door is opened and closed or the STOP/ CLEAR pad is pressed.

**SCHEMATIC**  
NOTE: CONDITION OF OVEN  
1. DOOR CLOSED  
2. CLOCK APPEARS ON DISPLAY

NOTE: "★" indicates components with potential above 250V.



**Figure O-1. Oven Schematic-Off Condition**

## COMPONENT REPLACEMENT AND ADJUSTMENT PROCEDURE

### MAGNETRON REMOVAL

#### Removal

1. Disconnect the power supply cord and then remove outer case.
2. Open the door and block it open.
3. Discharge high voltage capacitor.
4. Disconnect all wire leads from magnetron.
5. Remove the one (1) screw holding the chassis support to the magnetron.
6. Release the chassis support from the hole of the oven cavity front flange.
7. Remove the two (2) screws holding air duct to magnetron and oven cavity top plate.
8. Remove the air duct from oven.
9. Carefully remove the four (4) screws holding magnetron to waveguide flange.
10. Remove magnetron with care so that magnetron antenna is not hit by any metal object around antenna.
11. Now, the magnetron is free.

#### Reinstallation

1. Reinstall the magnetron to waveguide flange with the four (4) screws.
2. Reinstall the air duct to the oven cavity top plate and the magnetron with two (2) screws.
3. Insert the end of the chassis support into the hole of the oven cavity front flange.
4. Hold the other end of the chassis support to the magnetron with the one (1) screw.
5. Reconnect the wire leads to the magnetron. Refer to "PICTORIAL DIAGRAM".
6. Reinstall outer case and check that the oven is operating properly.

CAUTION: WHEN REPLACING MAGNETRON, BE SURE THE R.F. GASKET IS IN PLACE AND MOUNTING SCREWS ARE TIGHTENED SECURELY.

### SERVICE INFORMATION FOR BASE MODELS R-305HK AND R-305HW

The following parts have been added the base models R-305HK and R-305HW from February 2003 production.

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
4-16	MROD-A019WREZ	Chassis support	1	
4-17	PCUSGA616WRPZ	Cushion	1	
7-12	XHTSD40P08000	Screw : 4mm x 8mm	1	

In accordance with above additional parts, procedure of "MAGNETRON REMOVAL" should be refer to above procedure.



## PARTS LIST

**Note: The parts marked “Δ” may cause undue microwave exposure.**  
**The parts marked “\*” are used in voltage more than 250V.**

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
<b>ELECTRIC PARTS</b>				
1-1	QSW-MA147WRZZ	Secondary interlock switch / door sensing switch	2	AG
1-2	FFS-BA034WRKZ	C/T fuse(150deg.C/20A) and monitor switch (D3V-1G-2C25) assembly	1	AS
1-3	FACCDAA083WRE0	Power supply cord	1	AQ
1-3	FACCDAA085WREZ	Power supply cord (Interchangeable)	1	AQ
* 1-4	FH-DZA075WRK0	High voltage rectifier assembly	1	AR
* 1-4	FH-DZA109WRKZ	High voltage rectifier assembly(Interchangeable)	1	AR
* 1-5	RC-QZA213WRE0	High voltage capacitor	1	AV
* 1-5	RC-QZA286WRZZ	High voltage capacitor (Interchangeable)	1	AV
* 1-5	RC-QZA211WRE0	High voltage capacitor (Interchangeable)	1	AV
1-6	RMOTEA346WRE0	Fan motor	1	AV
1-6	RMOTEA356WRE0	Fan motor (Interchangeable) for production use	1	--
1-7	QFS-TA014WRE0	Temperature fuse 150deg.C (oven)	1	AG
1-8	RLMPTA082WRZZ	Oven lamp	1	AL
1-8	RLMPTA085WRZZ	Oven lamp (Interchangeable) for production use	1	--
1-9	RMOTDA211WRE0	Turntable motor	1	AS
1-9	RMOTDA186WRE0	Turntable motor (Interchangeable)	1	AW
* 1-10	RTRN-A705WRZZ	Power transformer	1	BK
Δ* 1-11	RV-MZA288WRE0	Magnetron	1	BK
Δ* 1-11	RV-MZA321WRZZ	Magnetron (Interchangeable) for production use	1	--

### CABINET PARTS

2-1	GCABUA883WRPZ	Outer case cabinet (R-308HW)	1	BF
2-1	GCABUA889WRPZ	Outer case cabinet (R-308HK)	1	BF
2-2	FDAI-A265WRYZ	Bottom plate	1	AW
2-3	GLEGPA074WRE0	Foot	4	AC

### CONTROL PANEL PARTS

3-1	CPWBFA858WRKZ	Control unit assembly	1	BQ
3-2	HPNLCB804WRFZ	Control panel frame (R-308HW)	1	AS
3-2	HPNLCB805WRFZ	Control panel frame (R-308HK)	1	AS
3-3	PSHEPA913WRZZ	Graphic sheet (R-308HW)	1	AW
3-3	PSHEPA924WRZZ	Graphic sheet (R-308HK)	1	AW
3-4	XOTSD40P08000	Screw : 4mm x 8mm	2	AA
3-5	JBTN-B241WRFZ	Open button (R-308HW)	1	AG
3-5	JBTN-B242WRFZ	Open button (R-308HK)	1	AG
3-6	MSPRCA050WRE0	Button spring	1	AB

### OVEN PARTS

Δ 4-1	PHOK-A131WRFZ	Latch hook	1	AL
4-2	LBNDKA163WRPZ	Capacitor holder	1	AK
Δ 4-3	NFANJA020WRE0	Fan blade	1	AG
Δ 4-4	*****	Oven cavity (Not a replacement part)	1	--
4-5	MLEVPA233WRF0	Switch lever	1	AG
4-6	PCLICA032WRE0	Hand clip 4	1	AD
4-7	PCOVPA394WREZ	Waveguide cover	1	AK
4-8	PDUC-A833WRPZ	Air duct	1	AM
4-9	PDUC-A832WRWZ	Fan duct	1	AP
4-10	PPACGA176WREZ	TTM packing	1	AC
4-11	PCUSGA399WRE0	Cushion	1	AF
4-12	PCUSUA278WRP0	Cushion	1	AB
4-13	PCUSUA235WRP0	Cushion	1	AE
4-14	PCUSGA614WRPZ	Cushion	1	AE
4-15	PCUSGA615WRPZ	Cushion	1	AE
4-16	MROD-A019WREZ	Chassis support	1	AN
4-17	PCUSGA616WRPZ	Cushion	1	AK

### DOOR PARTS

Δ 5-1	FDORFA364WRTZ	Door panel	1	AS
5-2	PSHEPA382WRE0	Sealer film	1	AH
Δ 5-3	GWAKPA897WRFZ	Door frame (R-308HW)	1	AX
Δ 5-3	GWAKPA898WRFZ	Door frame (R-308HK)	1	AX
5-4	HPNL-A801WRRZ	Door screen (R-308HW)	1	AU
5-4	HPNL-A803WRRZ	Door screen (R-308HK)	1	AU
Δ 5-5	LSTPPA188WRF0	Latch head	1	AG
5-6	MSPRTA187WRE0	Spring	1	AC
5-7	GCOVHA450WRFZ	Choke cover	1	AG

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
<b>MISCELLANEOUS</b>				
6-1	FROLPA101WRKZ	Turntable support	1	AR
6-2	NTNT-A117WREZ	Turntable	1	AS
6-3	FW-VZB968WREZ	Main wire harness	1	AT
6-4	TCAUAA268WRRZ	DHHS caution label	1	AF
6-5	TCAUAA280WRRZ	Monitor caution	1	AF
6-6	TINSEA973WRRZ	Instruction book	1	AP
<b>SCREWS,NUTS AND WASHERS</b>				
7-1	XHPD40P08K00	Screw : 4mm x 8mm	2	AA
7-2	LX-CZA070WRE0	Special screw	2	AC
7-3	LX-CZA073WRE0	Special screw	2	AC
7-4	LX-CZ0052WRE0	Special screw	2	AA
7-5	LX-EZA042WRE0	Special screw	2	AB
7-6	XHPD30P06000	Screw : 3mm x 6mm	1	AA
7-7	XHPD40P08000	Screw : 4mm x 8mm	5	AA
7-8	XHTSD40P08RV0	Screw : 4mm x 8mm	4	AA
7-9	XHTSD40P12RV0	Screw : 4mm x 12mm	1	AA
7-10	XOTSD40P08000	Screw : 4mm x 8mm	14	AA
7-11	XOTSE40P08000	Screw : 4mm x 8mm (R-308HW)	1	AA
7-11	XOTSF40P08000	Screw : 4mm x 8mm (R-308HK)	1	AA
7-12	XHTSD40P08000	Screw : 4mm x 8mm	1	AA

## HOW TO ORDER REPLACEMENT PARTS

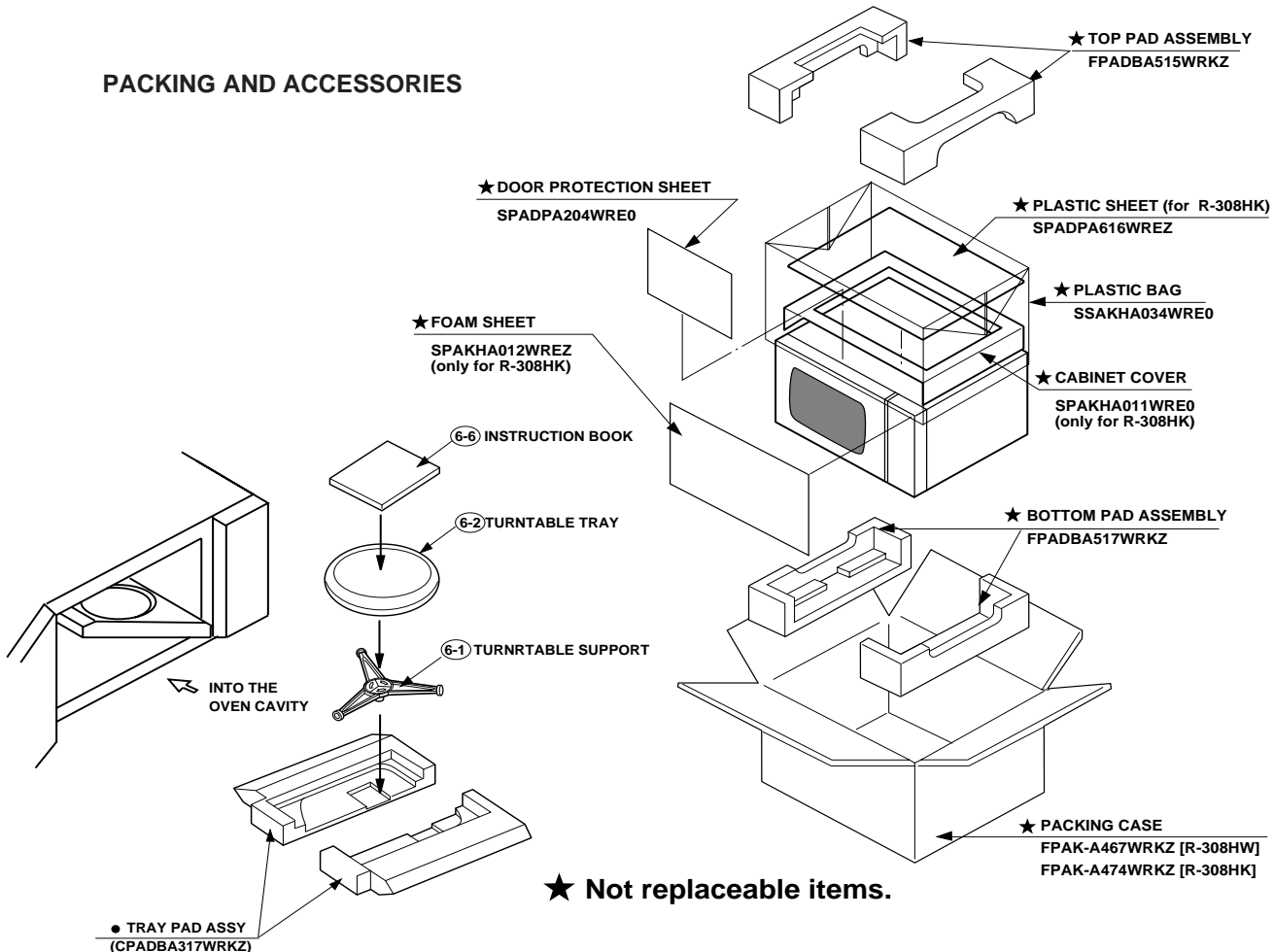
To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER      2. REF. NO.      3. PART NO.      4. DESCRIPTION

Order Parts from the authorized SHARP parts Distributor for your area.

Defective parts requiring return should be returned as indicated in the Service Policy.

## PACKING AND ACCESSORIES



## OVEN AND CABINET PARTS

